Report 87-A

ERCB

Gas Supply Protection for Alberta

Policies and Procedures

March 1987

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EXECUTIVE SUMMARY

The Board has concluded that retention of the currently used gas surplus and deliverability tests, which cover 25-year periods, would not be appropriate in the present deregulated environment. They are not in accord with the intent of the 1985 Agreement on Natural Gas Markets and Prices and would impede response to market forces. Their continued use would also retain the adverse effects of encouraging Alberta consumers to contract only for the short term while relying on a substantial mandated reserve of gas being set aside for their future use, if needed.

The Board has also concluded that it would not be prudent to move completely away from a mandated surplus and rely totally on contracts to provide protection for Alberta's future needs. Such an approach, in order to provide that protection, would rely to a considerable extent on either the clause in gas removal permits requiring that Alberta's needs must be met, or on some legislated requirement that local distributors place certain volumes of gas under contract. The former would not represent an orderly approach to protection for Alberta's requirements, and the latter is beyond the jurisdiction of the ERCB. Additional reasons for not adopting the contracting only approach include: its inconsistency with the Board's interpretation of the Government's policy respecting protection for certain consumers, concern respecting complete reliance on the market place at a time of considerable uncertainty and the likelihood that the broad public would not see the approach as protecting its interests.

Having rejected retention of the currently used tests and of total reliance on contracts to protect Alberta's needs, the Board sought an intermediate approach. Having regard for

(a) the ability of large industrial (non-core) users to contract for their gas,

(b) the historical contracting practices of utilities that represent core consumers,

(c) the remaining substantial potential of the province for discovery and development of new gas,

(d) the long-term potential for development of alternative energy sources,

(e) the fact that the core market requirements are quite predictable if the core market is defined in a straight forward manner, and

(f) the protection afforded Alberta consumers by the permit removal system and the Gas Resources Preservation Act,

the Board is satisfied that a simple calculation which would protect for 15 years of requirements by core users (residential, commercial, and small industrial) would be appropriate. The volume of gas thus mandated for retention to serve Alberta consumers would not be substantially different from what would be expected to be under contract to those consumers. Accordingly, the degree of its interference with market forces, and other shortcomings of the currently used test, would not be great. The calculation would be used as a guide by the Board to determine whether or not there are reserves "available for inclusion in new or amended permits".

The Board has also decided to eliminate the deliverability test and in its place, will periodically publish demand-supply projections for the information of interested parties. It will continue to apply its current practices for expediting small-volume permit applications of less than 2 years' duration.

The Board is issuing a new informational letter in draft form which describes in considerable detail the requirements of gas removal permit applications, and the procedures which will be used by the Board in processing those applications. The Board is seeking input from interested parties respecting those matters, prior to issuing the informational letter in final form.

1 INTRODUCTION

1.1 Background

The Gas Resources Preservation Act (the Act) requires persons proposing to remove gas from Alberta to apply to the Energy Resources Conservation Board (the Board) for a permit authorizing the removal. The Act further provides that "The Board shall not grant a permit unless in its opinion it is in the public interest of Alberta to do so having regard to

(a) the present and future needs of persons in Alberta,

(b) the established reserves and the trends in growth and discovery of reserves of gas or propane in Alberta, and

(c) any other matters considered relevant by the Board."

In practice the Board has set out the policy, procedures, and formulae that it uses to ensure protection of supply. The present method incorporates changes made following a two-phase public hearing in 1979 (Proceeding 780491). Phase I considered the ultimate potential for gas and co-products in Alberta, and Phase II the formulae and procedures for determining the amount of gas surplus to Alberta needs. The Board's decisions on these matters were summarized in ERCB Report 79-B[1]. The details of Phase I of the proceeding are dealt with in ERCB Report 79-G[2], and the details of Phase II are dealt with in ERCB Report 79-I[3].

On 31 October 1985 an Agreement Among the Governments of Canada, Alberta, British Columbia, and Saskatchewan on Natural Gas Markets and Prices (the 1985 Agreement), was completed. The Agreement stated that "Alberta and British Columbia will initiate a review of their respective surplus tests to ensure that the tests will contribute to the achievement of the market-oriented pricing system contemplated in the Agreement." As a result of a request of the then Alberta Minister of Energy and Natural Resources in a letter to the Board dated 2 December 1985, the Board originally scheduled a public hearing for 12 May 1986 for the purpose of hearing representations respecting the procedures and formulae used in the administration of the Act. The Notice of Hearing asked for submissions with respect to any aspect of the procedures and formulae currently used by the Board and, in particular, the following matters:

1 The suitability of the reserves test, including the treatment of deferred reserves and reserves beyond economic reach, the method of determining Alberta's present and future requirements, including the period of which the requirements are applied, and the treatment of remaining permit commitments, including fuel and shrinkage.

2 The suitability of the deliverability test, including the methods used for estimating the demand and supply quantities to be used in the test and the period for which the test is applied.

3 The suitability of adopting alternative protection tests.

4 The treatment of short-term small-volume gas removal applications as set out in IL 85-17 (Interim).

The hearing was postponed as a result of requests for deferral.

On 28 October 1986, the Minister of Energy wrote to the Chairman of the ERCB indicating that the Government of Alberta believed it was an appropriate time to proceed with the hearing, and outlined the Government's policy respecting the Protection for Consumers of Natural Gas in Alberta. It was stated that the policy of the Government is to provide for the reasonable needs of end users who cannot normally be expected to contract directly with producers for supply needs, but not for those end users, generally in the industrial category, who are capable of arranging security of supply through direct contractual practices.

On 14 November 1986, a Notice of Re-scheduling of Hearing was issued indicating that the hearing would commence on 13 January 1987.

This report deals with Proceeding 860226, which commenced on 13 January 1987. The 2 December 1985 and 28 October 1986 letters from the Energy Minister are included in Appendix A of this report.

1.2 Current Method of Gas Surplus Determination

The present method of determining gas surplus to Alberta's requirements involves a two-stage test. When completed, the stages are combined to determine the

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[1] Summary Report on Alberta Gas Reserve and Removal Matters. ERCB Report 79-B, June 1979.

[2] Utlimate Potential For Gas In Alberta. ERCB Report 79-G, December 1979.

[3] Alberta's Gas Supply Protection Procedures and Formulae. ERCB Report 79-I, December 1979.

volumes of gas that may be considered to be surplus to the current and future requirements of the province.

The first stage is to calculate the current surplus of reserves. Total "remaining established reserves", are reduced by the reserves considered beyond economic reach and a portion of reserves deferred for conservation reasons. From the resulting volume, which is the "total available reserve", a quantity equal to 25 times Alberta's requirements for delivery in the first year of the protection period ($25A_1$) is subtracted. Further deductions to the remaining quantity are then made to account for shrinkage, fuel, and losses associated with the reprocessing and transportation within Alberta of gas being removed from the province. From the net volume, the amount needed to meet remaining removal permit commitments is subtracted. The final result is defined as the current reserves surplus.

The second stage is to apply a deliverability test relating estimates of the annual potential productive capacity of established and future reserves to Alberta requirements, remaining permit commitments, and any additional permit volumes applied-for at the time. The deliverability forecast period is at least as long as the term of the removal permit under consideration. The deliverability test is intended only to provide a broad assessment of future production capability rather than a rigid determination of such capability. It was adopted in 1979 to replace a previously used "future surplus test", with the objective of providing a better means of comparing future requirements to available future supply.

The deliverability test is used to supplement the reserves surplus test, and may be an additional limiting factor in determining the volume of reserves available for removal from the province. The Board has retained flexibility in interpreting the deliverability test so that each application can be judged on its own merits.

1.3 Hearing

The hearing was held on 13, 14, 15, and 16 January 1987 in Calgary, Alberta, with G. J. DeSorcy, P.Eng., C. J. Goodman, P.Eng., and N. A. Strom, P.Eng., sitting.

The Board received 33 submissions in response to its notice of hearing. Table 1 shows those who made submissions.

2 VIEWS OF THE PARTICIPANTS

2.1 Basis of Protection

Pursuant to the Gas Resources Preservation Act, all participants recognized the responsibility of the Board, in reviewing new applications for removal permits, to have regard for the current and future needs of Albertans, and also, for the legislated authority to divert volumes bound for ex-Alberta markets, if needed to meet immediate critical requirements within the province.

Referring to item (1) of the hearing agenda (suitability of the reserves test), there were significantly divergent views, generally as follows:

(a) Opposition was expressed with respect to any mandated gas reserves surplus test whatsoever. Some of those expressing this view indicated that if a test were retained that it be confined to very nominal levels for "core market"[1] customers ($5C_1$ to $10C_1$). Some suggested that the Public Utilities Board (PUB) be charged with ensuring that the utility companies engage in contracting adequate supplies for those Albertans not normally able to engage in direct contractual arrangements (ordinarily residential, commercial, and small industrial customers).

(b) Support was advanced for the continuation of a mandated reserves surplus test for core customers ($15C_1$ to $25C_1$) in place of the current all-Alberta requirements test ($25A_1$). Most proponents of this approach acknowledged the general concept of the Minister's position that industrial customers in Alberta should not be accorded any form of mandated protection, but instead would be subject to general market economy effects unprotected by any regulatory measures. Some proponents of a mandated surplus test suggested the current $25A_1$ test be retained.

Since it was generally agreed that industrial customers need not be accorded any mandated form of protection, it followed that the area of disagreement focused essentially on the manner of protection for core customers.

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[1] Core market is normally taken to include residential customers served by gas distribution utilities and commercial customers, the bulk of whom also obtain their supplies from the utilities. C_1 is the core market requirement for year 1.

TABLE 1 HEARING PARTICIPANTS

Principals and Representatives (Abbreviations Used in Report)	Witnesses
AEC Oil and Gas Company (AEC) W. Mirosh K. Teitge	D. W. Cornelson, P.Eng.
Alberta New Democratic Party (New Democrats) B. Pashak, M.L.A.	B. Pashak, M.L.A.
Alberta Northeast Gas, Limited (ANE) K. F. Miller	
Alberta and Southern Gas Co. Ltd. (A&S) J. R. Smith, Q.C. A. A. Fradsham	J. T. DeGelder, P.Eng. D. McMoreland, P.Geol. J. D. Ingram
Department of Utilities (Gas Alberta)**	
British Columbia Hydro and Power Authority*	
Canadian Petroleum Association (CPA) A. L. McLarty	D. Jones, P.Eng., of Home Oil Company Limited B. B. Rombough, C.A., of Petro-Canada Inc. M. E. Scott of Pan-Canadian Petroleum Limited
Canadian Western Natural Gas Company Limited/ Northwestern Utilities Limited (Alberta utilities) C. K. Sheard	N. Doherty, P.Eng. W. L. Graburn, P.Eng.
City of Calgary R. F. Goss	
City of Edmonton M. McAvoy	
Consolidated Natural Gas Limited (Consolidated) K. F. Miller	C.A.J. Harvey Dr. E. W. Best, P.Geol., of Foster Research
The Consumers' Gas Company Ltd. G. Dann, P.Eng.	
Dome Petroleum Limited A. Clark	
Environmental Resource Centre*	
Grande Prairie Transmission Co. Ltd.* Inland Natural Gas Co. Ltd. Columbia Natural Gas Limited	
Gulf Canada Corporation D. J. Gandar	
Independent Petroleum Association of Canada (IPAC) J. A. Snider	A. P. Markin, P.Eng., of Poco Petroleums Ltd. R. B. Hillary, P.Eng.

TABLE 1 HEARING PARTICIPANTS (cont'd)

Principals and Representatives (Abbreviations Used in Report)	Witnesses
Manitoba Ministry of Energy and Mines*	
Metro Gaz Marketing, inc. (Metro Gaz) E. D. Learoyd, P.Eng.	E. D. Learoyd, P.Eng.
Ontario Ministry of Energy P. Morris	
Pan-Alberta Gas Ltd. F. R. Foran T. J. Ebbels	Dr. R. Mansell of Wright Mansell Research Limited W. Rousch, P.Eng. I. Taylor, P.Eng., of Sproule Associates Limited
Petro-Canada Inc. E. S. Decter	
Poco Petroleums Ltd. J. D. Rooke G. E. Zawalsky	
ProGas Limited (ProGas) N. M. McPheeters K. J. MacDonald	L. H. Larson, P.Geol.
PSR Gas Ventures Inc. J. M. Horlick	D. Haughey J. Horler P. H. McMillan
Shell Canada Limited J. Anderson	
Small Explorers and Producers Association of Canada A. D. Rogan, P.Eng.	A. D. Rogan, P.Eng., of Dynamar Energy R. E. McLennan, P.Eng., of R. E. McLennan and Associates Ltd.
Stone Petroleums Ltd. (Stone) D. L. Wolf	D. L. Wolf
Sulpetro Limited S. MacKenzie	
Union Gas Limited G. A. Aarssen	
Universal Exploration (83) Ltd. (Universal) D. A. Buchanan	J. A. Mercier
Westcoast Transmission Company Limited J. Lutes	R. B. Maas, P.Eng.
Western Gas Marketing Limited (W G Marketing) E.W.H. Mallabone R. Young	B. G. Luft

TABLE 1 HEARING PARTICIPANTS (cont'd)

Principals and Representatives (Abbreviations Used in Report)	Witnesses
Energy Resources Conservation Board staff	
C.J.C. Page	
L. A. Mazurek, P.Eng.	
K. Johnston	
G. Habib	
T. Hazard	
M. E. Mumby	

* Did not appear at the hearing.
** Submitted pursuant to section 26(4) of the Rules of Practice, Energy Resources Conservation Act.

There was general consensus at the hearing that the Board, as a means of assessing availability of supply to satisfy Albertans' needs, should continue to appraise and publish information pertaining to projections of Alberta energy requirements. Inherent in these are projections of primary energy supply availability from all anticipated sources within the province, and projections of secondary energy consumption (including petrochemical industry feedstock). The participants referred to these activities collectively as "the Board's normal monitoring activities", and all urged that these continue irrespective of any rulings made concerning this hearing.

2.2 Contractual Basis of Protection

2.2.1 Arguments in Favour

Several arguments were presented in support of the contractual basis of protection. These included that

- contractual arrangements, not a mandated surplus test, are the actual method by which supply requirements of persons in Alberta are met;
- elimination of a mandated surplus test is consistent with a deregulated environment;
- removal of the mandated surplus test results in positive effects on the market in terms of
  - increased market efficiency since consumers will contract gas for only as much protection as they are willing to buy,
  - more equitable sharing of the cost of security of supply,
  - incentives provided by consumers for producers to explore and develop required future supplies;
- establishment of access to extraprovincial markets now would ensure benefits in the future when demand for gas in North America starts to increase;
- contractual arrangements between Alberta consumers and permit holders have generally served Alberta well so far and will continue to do so;
- the Alberta utilities already contract long-term irrespective of a mandated surplus test;
- elimination of a mandated surplus test would reduce regulatory and administrative burden; and
- the contractual approach, in the absence of any other regulatory impediments such as the mandated surplus test, would offer more encouragement for willing buyers outside Alberta to purchase from willing sellers within Alberta.

To alleviate any uncertainties respecting the ability of the local distribution companies to ensure supply protection for Alberta core customers, most participants who endorsed removal of the mandated surplus test, at the same time proposed substitute measures. These generally took the form of

- having the PUB scrutinize contracts to ensure appropriate supply is provided for; and
- continuing to allow for the intervention of the local distributors at permit removal hearings to alert the Board of supply constraints. (However, the burden would then fall on the local distributors to demonstrate that they would be faced with a supply deficiency rather than protection from such possibility by a mandated surplus test.)

These submittors also noted that safeguards are currently in place that provide for Alberta's needs if an emergency jeopardizes an adequate supply of gas to consumers in Alberta, since the Board can cause gas going to ex-Alberta markets to be diverted to intra-Alberta markets.

2.2.2 Opposing Arguments

Those opposed to the contractual mechanism alone as a basis of protection argued that there are many shortcomings with this approach. Some of their main concerns were with the contracts themselves. They felt contracts often cannot be relied upon for the following reasons:

- inaccurate reservoir assessments,
- possibility of multiple contracting of the same reserves, and
- abrogation of contracts for any number of other reasons.

These participants were also of the opinion that complete removal of the mandated surplus test would have a number of negative impacts, some of which are

- cost to Alberta consumers would increase in times of tight gas supply since local distributors will be serving a core market which, because of widely fluctuating seasonal weather conditions, operates at a low-load factor during much of the year;
- Canadian and United States (U.S.) prices would erode further as more gas is suddenly made available to currently glutted markets. Market forces might not act efficiently given the current uncertainties in the gas industry, the result being adverse effects on the Alberta public interest;
- Alberta customers will perceive that their interests are not being protected;
- if at some future time a mandated surplus test were required to be reinstated, the market may be subjected to severe disruption that outweighs any minor distortions currently caused by the mandated surplus test;
- accelerated depletion of Alberta's reserves would occur, thus advancing the time when Alberta consumers need to pay for higher cost reserves; and
- free market forces do not always work in the public interest in that willing buyers in eastern Canada or the U.S., and willing sellers in Alberta, who are often the producers in need of revenue, may not have the Alberta public interest in mind.

2.3 Mandated Surplus Test

2.3.1 Arguments in Favour

Those favouring a mandated surplus test gave several reasons in support of their views, including the following

- a mandated surplus test provides real protection for future requirements since it has the "force of law";
- a mandated surplus test provides public perception of security of supply as it is readily understood;
- a mandated surplus test for protection of the core market may be a simpler means of protecting core customers than alternative regulatory protection via the PUB;
- protection of the core market would be consistent with Government policy;
- a mandated surplus test allows volumes to be dedicated, with a high degree of confidence, to removal permits, thus providing an element of comfort to ex-Alberta gas purchasers as it indicates that once a permit is granted, gas would very likely flow as Alberta requirements are already accounted for;
- neither the PUB nor the ERCB should rely implicitly on the local distribution companies to protect consumers; and
- in the current unsettled energy markets, it is not propitious or in the public interest to remove the long-standing mandated surplus test.

It was also stated that, historically, a mandated surplus test has not caused harmful impacts such as a reduction in exploration or drilling activity. Neither has it imposed any significant financial burden in the form of inventory costs on producers. The current large gas surplus, they submit, was due to misreading of the market by the industry and not the result of a mandated surplus test.

2.3.2 Opposing Arguments

Several of those opposing continuance of a mandated surplus test agreed that some form of protective measure for core customers would be desirable and consistent with the Ministerial directive. Generally, they assumed that the PUB, by periodically reviewing the contracting practices of the utilities over which it has jurisdiction, would ensure protection for core customers. Such a protection, it was submitted, would replace the more general core customer protection implicit in a mandated surplus test.

A number of reasons for rejecting any form of mandated surplus test were identified by the producers and their associations. These include

- potential price distorting effects may be caused by a mandated surplus test:
- interference with market forces would produce wrong signals to consumers and producers:
- no substantive security is offered by a mandated surplus test in and of itself, as there is no link between consumers and the mandated inventory;
- it creates a "surplus mentality" which promotes complacency in contracting and consumption:
- by retarding consumer contracting activity, it creates a disincentive to explore and drill: and
- it may create uncertainty with ex-Alberta customers as to Alberta's commitment to market forces.

Protection of only the core market through a mandated surplus test was also rejected by many of these participants on definitional grounds. That is, it would be difficult to determine eligibility for this category, which could result in ever-fluctuating estimates of core market requirements.

2.4 Categories of End Use to be Protected and Period of Protection

Within the group that favoured some form of mandated surplus test, there was disagreement as to the end users that should be protected and/or the period of protection. The Alberta utilities, supported by the City of Calgary, recommended protection for the core market for a period of 25 years ($25C_1$). This would free up approximately 60 per cent of the volumes currently held under the $25A_1$ protection policy. This was suggested to be a fair meeting point between the interests of producers and those of Alberta consumers. Furthermore, they said $25C_1$ is consistent with the Alberta Government policy statement. The Alberta utilities also supported the continued use of the deliverability test and recommended that the availabililty for contracting test be reinstated to ensure adequate supplies of natural gas would be available for contracting.

W G Marketing also supported the concept of something more than just contracts for core market protection: however, it did not offer a specific procedure or formula.

Metro Gaz suggested that there should be protection for all consumers: however, the level of protection should be assessed individually. It argued that a period of protection of 20 years is not unreasonable for residential and commercial consumers since they are "...considered captive to gas once attached". For industrial users, who have more flexibility to switch to alternative fuels, a maximum protection period of 10 years was considered adequate.

The New Democrats and Stone were against any reduction in the current level of protection (i.e. $25A_1$). The New Democrats stated that the current procedure, including the deliverability test, should be maintained because the market cannot be entrusted to provide for Alberta's long-term security of supply. To reduce the cost of carrying the mandated surplus or divide it more equitably, it suggested the Board consider sharing the mandated surplus reserves on a per company basis. Universal was also of the view that the surplus obligation on individual producers is the approach that is most consistent with the current industry's realities.

Gas Alberta filed a submission but did not appear at the hearing. It believed that the core market requires a minimum of 10 years' supply guaranteed by some form of mandated surplus test, while the industrial customers can secure their supply through direct contracting with producers.

Some of the participants who supported the elimination of a mandated surplus test also offered their views of who should be protected and the period of protection in the event that a mandated surplus test were retained. The view expressed by ProGas was that a 20-year surplus ($20C_1$) test be maintained with respect to the core market, although it suggested that the number 20 is arbitrary and that anywhere between a 12- to 15-year surplus test ($12C_1$ to $15C_1$) would be adequate.

Consolidated stated that if a reserves test were still deemed to be necessary, protection should be restricted to the core market. A surplus test in the form of $6C_1$ would adequately reflect the time needed to bring in new reserves and start delivery.

A&S stated a modified surplus test, something like $10C_1$, would be preferable over the existing test ($25A_1$). Such a modified test would provide protection for the core market and would allow consumers to choose an alternate energy source as and when gas reserves begin to decline significantly.

IPAC suggested that if the Board were to adopt a modified surplus test, such protection should be based on the contracting practices of the industry and its ability to discover new reserves to replace those which are being depleted. Taking that into account, something in the vicinity of a $5C_1$ surplus test was suggested as adequate.

2.5 Role of PUB

Some participants did not support a mandated surplus test, but to the extent that some form of protection is deemed necessary by the Board, suggested that the local distribution companies should be required to enter into contracts for a specified term and/or volume. The responsibility for ensuring that adequate supplies have been contracted for core customers would rest with the regulator closest to and most familiar with the market. The majority of participants thought the appropriate regulatory body for that purpose would be the PUB. As well, they accepted that additional legislation might have to be established in order for the PUB to carry out its expanded function.

2.6 Board Monitoring Role

Those supporting the contractual mechanism also indicated their views as to the role of the Board under this form of protection. They saw the main function of the Board as one of monitoring the industry. This would entail continuing with regular publication of Board reports such as Alberta's Reserves and Alberta Energy Requirements. Although almost all believed the deliverability test was not necessary and should not be part of any supply protection formula, some considered it a "useful informational tool" and suggested that the Board continue to publish its deliverability forecasts for monitoring purposes.

The effects of monitoring would be threefold. Firstly, it would facilitate effective contracting. Secondly, if monitoring of the supply and demand balance indicated that supply problems were developing, remedial measures could be taken. Thirdly, it would provide assurance that the Board was continuing to look out for the public interest.

2.7 Removal Permit Procedures

Comment was received from some ten participants at the hearing respecting the Board's procedures for handling applications for gas removal permits. There was a general consensus that an expedited process, without public notice, is desirable for short-term small-volume applications. However, a minority suggested that there is no need for specific volume restrictions for the short-term period, which was recognized as being a maximum of 2 years. Others suggested that applications longer than 2 years should be considered long-term even if the volumes were small. Two participants submitted that notice should be published for all applications.

There was general support for a requirement that applicants requesting removal permits should be required to identify lands under contract. It was also suggested that all contracted lands be a matter of public record. In a few cases it was suggested that evidence be submitted to demonstrate that contracts are in place or at least a firm indication be provided that they will be obtained, for both the purchase and sales of the gas to be removed.

Although the Alberta utilities did not comment specifically on the procedures, they recommended an availability for contracting test as a monitoring device, and this would require the Board to keep track of lands under contract.

It was suggested by several at the hearing that, having regard for the Alberta public interest, the Board continue to exercise judgement with respect to price and price escalation in contracts as part of the approval process.

3 VIEWS OF THE BOARD

In assessing possible changes to the procedures and formulae used in the administration of the Act, the Board believes it would be useful to first address the reasons why the review was made and the objectives that any revised system should satisfy. It will then go on to consider the evidence respecting the proper basis for providing the protection required in the Act and whether or not changes are warranted. Finally, it will present details of the protection methodology to be used and the system for administering gas removal permits.

3.1 Reasons for Review and Objectives of Any New System

The Alberta gas protection procedures and formulae have been reviewed periodically over the past 30 years, most recently in 1979. Previous reviews have generally resulted from requests by producers or shippers of gas who perceived changed circumstances and moved to have them recognized. This differs from the current review which was directed by the Alberta Government following the 1985 Agreement on natural gas markets and prices.

The 1985 Agreement was a major step towards deregulation of the natural gas industry in Canada and is intended to achieve a market-oriented pricing system. It included the following commitment:

> "The governments anticipate that reviews of surplus tests underway or shortly to be initiated by the National Energy Board and by the appropriate provincial authorities will result in significantly freer access to domestic and export markets and thus will contribute to the achievement of the market-oriented pricing system contemplated in this Agreement."

Additionally, the Alberta Government issued a policy statement in October 1986 and asked the Board, in its review, "...to take into account the policy of the Government...".

The statement indicated "...it is the policy of the Government of Alberta to provide for the reasonable needs of end users who cannot normally be expected to contract directly with producers for their supply needs, but not for those end users, generally in the industrial category, who are capable of arranging security of supply through contractual practices".

It went on to say that the Government "...believes that within the spirit of protection outlined above it is possible to devise surplus procedures that do not distort market forces which can generally be relied upon to balance supply and demand.", and that "...surplus determination procedures, provincial or federal, are not a substitute for private sector contractual arrangements...".

It is thus clear that the current review of the gas protection procedures and formulae is taking place in an environment of fundamental change in the overall gas marketing and pricing system. This situation, along with the policy direction given by the Government, must be kept in mind when setting out the objectives to be satisfied by the gas supply protection system.

In the Board's judgement, the most important of these objectives are as follows:

- The system must provide for Alberta's present and future requirements in keeping with the wording of the legislation.
- It must be consistent with other aspects of the legislation and with the policy statement of the Government.
- The system must be designed with the Alberta public interest in mind.
- The move to deregulation of the natural gas industry must be recognized.
- The system must recognize current circumstances such as the world oil surplus and the resulting impact on price, and the North American surplus of gas: but must also recognize that these circumstances can and will change.
- It must have regard for the level of knowledge of the Western Canada Sedimentary Basin and its ultimate gas reserve potential, the existing extensive gas pipeline system and other infrastructure, and current contracting practices for gas.
- It must recognize recent and expected trends in the demand for gas within the province, changes in technology over the years, and the potentially available alternative sources of energy.
- The system must give signals to developers and buyers of Alberta resources which are consistent with Government policy and have the potential to benefit the long-term Alberta public interest.
- And finally, it must be simple, adaptable to changing circumstances, and practical to apply.

3.2 Basis of Protection for Alberta's Requirements

The participants in the hearing did not challenge the basic policy of protecting for the present and future needs of persons within the province. There was, however, considerable disagreement as to how this might be done. Much of the discussion dealt with the relative merits of "protection through the contracting mechanism" as opposed to a "mandated surplus", and the choice between these approaches is the fundamental issue to be resolved.

3.2.1 Definition of Alternatives

Reliance on the contracting mechanism alone is referred to in this section of the report as the "contracting approach". As defined by the Board it would involve the following:

- Alberta consumers, or their representatives, reserving gas for their needs by placing it under contract:
- appraisal of gas removal applications to ensure that the gas in question is owned or under control of the applicant, a market exists for it, and terms of the marketing arrangement are consistent with the public interest:
- the opportunity for at least certain types of Alberta consumers to intervene with respect to applications for removal permits if they are unable to contract for the gas they need at competitive terms:

- continued inclusion in removal permits of the standard clause stipulating that the permittee shall supply gas, at a reasonable price, to any consumer within the province requiring the gas;
- the provision in the legislation that in the event of an unforeseen emergency, the Board, with the approval of the Lieutenant Governor in Council, could divert gas intended for use outside Alberta to consumers within Alberta;
- the ability, if needed, for the PUB to direct that certain representatives of consumers, i.e. the regulated utilities,place sufficient gas under contract to protect the needs of their customers; and
- the provision of a monitoring system by the ERCB which would periodically gather, analyse and publish data respecting gas under contract, Alberta's future requirements, and forecast deliverability.

The "mandated surplus approach" as defined by the Board for purposes of this section of the report, would involve all of the features of the contracting approach with the possible exception of the PUB involvement, plus the application of a surplus test prior to the issuance of substantial volume removal permits. Also, recognizing the Government policy statement suggesting that contractual arrangements are adequate for industrial and other users who can be expected to contract directly for their supply needs, the surplus test would likely apply only to a portion of Alberta's requirements. These would be core markets principally made up of residential and commercial requirements.

3.2.2 Relative Merits of Alternatives

The Board has assessed the two major alternatives having regard for the previously listed objectives and other matters it considers relevant.

Degree of Protection for Alberta's Requirements

In a well functioning market, where arm's length arrangements represent the vast majority of business arrangements, the contracting approach would probably provide adequate protection for Alberta users. This is particularly so because of the clauses in most removal permits that ensure that the needs of Alberta consumers are satisfied.

The mandated surplus approach, since it includes all aspects of the contracting approach plus a surplus test, provides a more explicit form of monitoring the changing demand-supply situation and, therefore, would be more certain to protect for Alberta's requirements.

Certain participants at the hearing raised as a potential weakness of the contracting approach, in terms of protecting for Alberta's requirements, the possibility that contracts might be abrogated. They pointed to situations in recent years where alterations to contracts were necessitated by major events which had not been foreseen.

The Board would not expect to see producers avoid contracting, or breaching existing contracts to supply gas to Alberta consumers, and so believes the suggestion that contracts cannot be relied upon to be exaggerated. At the same time, it does agree with the Alberta utilities that deliveries under long-term contracts for their future requirements with very low-load factors, about 40 per cent, would be more costly to achieve than would deliveries under a contract with a much higher load factor. However, in the Board's view, this would be a function of the ratio of the average to the peak demand of the market being served, and the need for additional facilities to serve a low load factor market would exist whether or not a mandated surplus existed.

A potential drawback to the protection provided by contracts would result if an Alberta consumer accepted a contract from a producer for reserves which subsequently could not be recovered or were too expensive to be produced due to unforeseen reservoir problems, or were not available because the reserve estimate had simply been too high. This would not be a significant risk to near-term supply where the Alberta consumer was represented by knowledgeable intermediaries, such as the Alberta utilities, who diluted the risk by having a large aggregate of many reservoirs under contract. It could be, however, for others who are relying on only modest technical information and who contract from only a small number of reservoirs.

Overall, the Board concludes that although the contracting approach would, in all likelihood, adequately protect Alberta consumers, the addition of a reasonable mandated surplus test would modestly improve upon that protection. A surplus test would ensure that there was a set volume of gas, consistent with the protection policy, either under contract or available for consumers to place under contract. It would also ensure that the minimum period of protection is defined by an informed neutral third party and enforced as a matter of public policy.

Consistency with Legislation and Government Policy

One of the fundamental questions which the contracting approach raises for the Board is whether or

not it would be consistent with the legislation and the Government policy statement. The legislation directs the Board, in considering removal permit applications, to have regard for the present and future needs of the province and the reserves and trends in their growth, but does not specify the manner in which this should be done.

The contracting mechanism by itself would not appear to be consistent with the legislation. It likely is consistent when coupled with the removal permit process and the opportunity for Alberta consumers to intervene against applications when they could not obtain gas for contracting. There is no question in the Board's mind that a mandated surplus approach is consistent with the legislation.

The Board notes that the Government policy statement specifically differentiates between consumers who are not reasonably able to contract directly for their own needs (the so-called core users) and those who are (the non-core users). A mandated surplus approach which set aside a block of gas only for core users would fit the Board's interpretation of the Government policy statement. As well, the Board notes that almost all participants agreed that the core users should be the only group protected by a mandated surplus, if such were found necessary.

Certain participants suggested that the contracting approach would differentiate between markets in a manner consistent with the policy statement. Some said that core consumers would have the right to intervene against new removal permits if they could not contract for their needs, while non-core users would not have that right. Others said the PUB could direct representatives of core consumers to contract for greater volumes of gas if increased protection was needed, but could not do likewise for non-core users.

Respecting the right to intervene, the Energy Resources Conservation Act gives that right to any party that may be directly and adversely affected by a Board decision on an application. The Board does not believe it could distinguish between different types of consumers who might be adversely affected in terms of granting such a right. Accordingly, the Board does not see the "selective right to intervene" as a way in which to differentiate in the protection for core and non-core users. Naturally it would have regard to all circumstances relevant to the public interest in assessing the merits of an intervention. One such matter could be whether or not an intervener had passed up reasonable opportunities to contract for gas.

With respect to possible PUB involvement, the Board recognizes that the PUB has responsibilities related to utilities with franchise arrangements. However, it is not clear to the Board that this would cover all core users. In any case, the Board does not believe it would be proper for it to rely on actions of other government agencies, however capable they might be, to discharge those responsibilities it has been given under the legislation.

In summary, the Board believes that the contracting approach might be consistent with the legislation but that it would not fully meet the Board's interpretation of the Government policy statement. A mandated surplus approach, in the Board's judgement, would be consistent with both.

Perception by the Public

The question of whether or not removal of the mandated surplus test would protect future Alberta requirements raises the matter of perception by the public. It must be recognized that the broad public may not appreciate matters such as the removal permit system, the jurisdiction of the PUB respecting regulated utilities, or perhaps even the real meaning of contracts. However, the public likely does understand the concept of a block of gas in the ground reserved for future use. Consequently, even if it could be accepted that the contracting mechanism and removal permit system are consistent with the legislation and Government policy in protecting Alberta's future requirements, the mandated surplus approach has the advantage of being more readily understood and therefore provides assurance to the general public in the form of a simplified early warning device should supply difficulties be emerging.

It could be argued that the matter of public perception is not relevant in terms of the obligations imposed on the Board by the Act. The Board would disagree with this position and believes it would better serve the public interest if the broad public, other consumers, and the industry, all have an understanding and appreciation of the changing supply-demand situation and of the administrative procedures that are used to protect their interests.

Consistency with Deregulation

The contracting approach would be entirely consistent with the Government policy of moving towards deregulation. Elimination of the mandated surplus would also be a strong signal that the Alberta Government is fully committed to reliance on market forces in terms of the gas industry.

The mandated surplus could be at odds with the move to deregulation and could interfere with market forces, particularly if the volume reserved for future use was considerably greater than that typically contracted for by Alberta consumers and if the surplus test became a real constraint in accessing markets outside Alberta.

The contracting approach would thus have an advantage in terms of making the gas marketing system more reliant on market forces. On the other hand, the Board notes with interest the position put forward at the hearing, that, with the major markets for Alberta gas thousands of miles away, such market forces would not necessarily coincide with the Alberta public interest.

The Board recognizes that concern and also that there are uncertainties in the market as the various jurisdictions move towards deregulation. These factors raise the question of whether or not the protection system for Alberta requirements should be made, at this time, essentially dependent on market forces through a contracting only mechanism.

It is the Board's view that even in a deregulated environment where protection for Alberta requirements would be based primarily on contracts, it might be advantageous to retain an appropriate form of mandated surplus which would serve as a backup and ensure that those responsible for placing gas under contract would have reasonable volumes available for that purpose. Additionally, extraprovincial purchasers of gas would likely consider an Alberta supply of gas to be more reliable if they knew removal permits were issued only after some reasonable reservation of gas for use for Albertans.

It should be noted that any negative aspects of the mandated surplus approach and its potential for interference with deregulation and market forces could be greatly reduced if the volume of gas reserved for Alberta's requirements was relatively close to the volume that would normally be contracted for by Alberta users. Such an approach, while not completely eliminating interference with market forces, would have the advantage of lessening it.

The Board's overall conclusion respecting this matter is that a mandated surplus test, such as the $25A_1$ which is used today to protect all Alberta consumers, would be inconsistent with deregulation and could interfere with market forces. A mandated surplus test which would set aside reserves very close in volume to those expected to be under contract, would reduce any such interference to a minimum level. The contracting approach would virtually eliminate such interference.

Impact on Prices of Alberta Gas in Markets Outside Alberta

It was suggested at the hearing that with the current perceived excess of gas supply in North America, the move towards deregulation, and the fall in gas prices, Alberta gas reserves should be left in the ground to be produced in future when prices are higher. This argument was related specifically to the current situation but also carried an inference that if a restrictive removal policy, such as use of a mandated surplus, locked gas reserves in the ground, they would simply be produced at a later date when prices are better and this would benefit Alberta.

The Board does not believe that a mandated surplus test should be used in an attempt to limit the availability of gas for ex-Alberta markets and thereby prompt acceptable prices. Indeed, the mandated surplus formula would have to be matched to external market factors rather than internal gas supply protection requirements to achieve that end. In the Board's judgement, removal permits under the legislation should be granted only when the price and other contract terms for the sale of the gas, coupled with all other relevant matters, are such that the removal would be "in the public interest of Alberta".

In summary, respecting this aspect of the situation, the Board does not believe that potential downward pressure on the price of Alberta gas sold outside the province would support the need for a restrictive mandated surplus test.

Impact on Prices to Alberta Consumers

The contracting approach would mean that any exploration or development costs, or lost opportunity, associated with the gas being reserved in the ground for security of supply purposes, would be carried almost exclusively by those for whom the gas is being reserved, the Alberta consumers. From the producers' and shippers' viewpoint, such a cost allocation would be fair and proper, and would not prevent Alberta consumers from obtaining the protection for which they are willing to pay. The Board generally agrees that those for whom gas is being reserved should carry the major portion of any resulting cost. This could be accomplished by a contracting approach, or alternatively, through a mandated surplus which did not reserve a great deal more gas than would typically be under contract.

Only the prospect of contractual gas sales, rather than the mandated surplus, results in gas reserves being identified by the producer, assessed by the producer and purchaser and reserved via contracts for use by the consumer. One of the drawbacks of the mandated surplus approach, in the view of certain participants, is that it leads Alberta consumers to adopt the complacent attitude that since a block of gas is being held for them by "the government", they need not actively secure their needed supplies via contractual arrangements. The Board believes that there may be a danger of this situation occurring, especially if the mandated surplus is very large relative to current and foreseeable needs.

There is also danger, particularly in a time of excess gas supplies, that users, knowing a mandated surplus is being held for them, would buy gas only for very short-term periods and at distress prices. The tendency to do this would be greatest for those consumers, such as industries, that use large volumes of gas at a particular location. Although this may lower the near-term gas costs to such an Alberta industry, it would be at the expense of another Alberta industry, the gas producers, who would have to carry the costs of the gas being reserved in the ground for the long-term security of supply. The net impact could be adverse to the public interest.

This potential situation supports the concept that any mandated gas surplus test judged necessary should not apply to large industrial consumers even if they were to claim that it was needed. (It is noteworthy that no industrial consumer appeared at the hearing to argue that mandated protection should be afforded to industrial consumers.) The Government policy statement indicates that protection of any such users, bearing in mind the basic market economy philosophy, should not be ensured through regulated protection formulae.

There were also suggestions at the hearing that the contracting approach would force Alberta consumers to compete directly with extraprovincial markets, thus increasing the price of gas to Alberta consumers. Others put forward the opposing view that the freeing up of shut-in gas by reducing the current protection level would increase the gas available to extraprovincial markets and thereby further reduce prices within the province. The Board doubts that either effect would materialize in the near term because there is an unusually large excess of gas available for contracting for markets either within or ex-Alberta. (On a comparative scale, the remaining reserves to annual production ratio for Alberta is currently about 25, whereas the ratio for the U.S. is approximately 10.) Over the longer term, prices within Alberta would be expected to more closely track Canada/U.S. prices.

In regard to impacts on Alberta core users and industries, as and when long-term price increases occur, government royalties and other income would increase. In such circumstances, the Government might choose to continue its sheltering of gas prices to Alberta consumers on either a blanket or selective basis. The Board believes this would be a more appropriate manner of dealing with any potential increase in prices to Alberta consumers, rather than trying to shield them by continuing to reserve a large mandated surplus.

In summary, regarding the possible impact on price to Alberta consumers, the Board does not see a great difference between the contracting approach or a mandated surplus, particularly if the mandated surplus was not large compared to the gas which would typically be under contract to Alberta users.

Simplicity and Flexibility

The contracting approach has the advantage of reducing regulatory involvement when compared to any form of surplus test. On the other hand, the contracting approach has potential for requiring greater involvement of the PUB which could add to the overall regulatory burden. If a mandated surplus approach was to be adopted, and assuming it would apply only to core markets, it would be imperative to have a simple approach to the definition of such markets, or the test could become extremely difficult to understand and apply.

One potential advantage the Board sees in a mandated surplus approach relates to its system for handling short-term small-volume applications on an expedited basis. A key element of the present approach is that no public notice is given before decisions are made on short-term applications. One reason the Board feels justified in such an approach is that it knows there is a protected volume of gas in the ground at all times, and therefore it does not have to provide Alberta consumers with the opportunity to intervene upon every application indicating they cannot satisfy their requirements. If the Board eliminates the mandated surplus, it would have to look closely at its expedited system and might have to make changes, such as giving notice for short-term small-volume applications. This would tend to lengthen the time needed to obtain short-term small-volume permits, and recognizing the current volatility of markets, this could work against the Alberta public interest.

The Board's overall view respecting this factor is that the contracting approach reduces a regulatory step and therefore would be easier to apply than would a mandated surplus. But there would be other compensating advantages to the mandated surplus approach, provided it could be kept simple.

Miscellaneous Matters

The current large volume of shut-in gas plus the abundant potential for developing additional reserves minimizes any threat to future Alberta requirements irrespective of the adoption of the contracting or mandated surplus approach. In addition and as pointed out by several participants, if there is a gas supply concern in future, a surplus test could be re-introduced and permit removals could be interrupted in accordance with standard caveats included in most permits. Also, Alberta's future requirements, particularly for core market uses, relate closely to population growth which is predictable with a high degree of confidence.

Weighing against this situation of not really needing a test for the foreseeable future would be a potential disadvantage that could result from eliminating the mandated surplus and having to re-introduce it later. This, as previously mentioned, could cause out-of-province buyers to have some reservations about Alberta as a reliable long-term supply source. The Board believes that it is very much in the public interest for buyers to recognize that Alberta removal permits have a real meaning and that they would not be interfered with lightly. The application of a surplus test prior to the issuance of removal permits would likely assist in this regard.

Some of those supporting the concept of a mandated surplus suggested that the cost of reserving gas in the ground rested with the producers but that it should be shared amongst them on an equitable basis. In the Board's judgement, this would be the equivalent of some form of sharing of markets amongst producers or of "prorating to market demand". Such an activity would be completely opposite to the current move towards deregulation and would not be consistent with the legislation as it exists. Since the hearing was not called to consider this matter, the Board will not comment further on it.

As a final matter, if one assumes that a mandated surplus would lock substantially more gas in the ground than consumers would place under contract, it likely follows that to do away with the mandated surplus and use the contracting approach would provide greater opportunity to improve the overall economics of the producing industry. When the excess of supply was sufficiently reduced, the province would likely gain increased economic activity by accelerated exploration and development of gas reserves.

Summary and Conclusions

The main advantages of the contracting approach would be a reduced regulatory step and greater possibility of response to market forces. Additionally, in accordance with market-oriented pricing, it would place any costs related to long-term security of supply on those seeking that security. The Board agrees with most participants that such costs should generally be borne by the users of gas. Such an action would have the potential for improving the overall economics of the producing industry and when the current oversupply is reduced, would likely increase the rate at which exploration and development would take place.

The contracting approach could be simpler to apply than a mandated surplus test, but this is not certain because removal of the test may lead to increased involvement of the PUB in the protection of Alberta core consumers. Also, it could cause the ERCB to alter its expedited procedures for handling short-term small-volume applications.

The contracting approach could be interpreted as being consistent with the legislation, but this would be primarily because of the clause in permits requiring that Alberta needs be met. Such an approach would probably adequately protect future Alberta requirements, but again, the contracting mechanism by itself would not likely be adequate if it were not for the requirement placed in permits that Alberta needs must be satisfied upon request.

A further reason to support a move to a contracting approach is that there is currently a large excess of gas in Alberta and thus little chance of a threat to security of supply for many years into the future. However, it must also be recognized that if the contracting approach is adopted and it is subsequently found not to adequately protect for Alberta's requirements, a reversal of policy and a reinstatement of a mandated surplus test would likely have a disruptive impact on the industry. Conversely, a mandated surplus focused primarily on core market users could provide a simple early warning system for changing demand-supply situations that could adversely impact Alberta users. It would also likely improve the reliability of Alberta removal permits as perceived by extraprovincial purchasers.

A disadvantage of the contracting approach is that it does not clearly differentiate in the protection for core and non-core users and thus appears to lack consistency with the Government policy statement. A further disadvantage is that it would not likely be understood by the broad public and its lack of visibility could be seen as an absence of protection of the public. Additionally, there is some question about complete reliance on the market place at a time when it is subject to many uncertainties.

An appropriately designed mandated surplus test would be consistent with the legislation and the Government policy statement. It would provide adequate protection for Alberta consumers, and most importantly, the method of providing that protection would be more readily understood by the broad public.

A mandated surplus approach would have the disadvantage of being at odds with the move towards deregulation and, potentially, could impede market forces. However, recognizing the uncertainties facing the gas industry at this time, retaining a form of mandated surplus would have the advantage of allowing the present market scene to settle and become more orderly prior to concluding that market forces would always work in the Alberta public interest.

To ensure that gas is marketed in a manner consistent with the Alberta public interest, the Board favours a review of removal permit applications rather than mandating that a surplus of gas be kept in the ground. Furthermore, a mandated surplus should not be used to ensure that the price of gas to Alberta consumers is kept artificially low. If market forces outside the province lead to increases in the price of gas to Alberta consumers, and this is seen as undesirable, a more appropriate approach might be for the Government to consider continuing its sheltering of Alberta consumers from the higher prices.

Considering the advantages and disadvantages of the contracting approach and the mandated surplus approach, it is clear to the Board that it would not be in the public interest to use a mandated surplus test, similar to the one now in use, to protect all Alberta consumers. In a deregulated environment, this could lead to reliance on the surplus being mandated rather than the contracting for gas by consumers. It would also allow some consumers, particularly large industrials, to take advantage of spot-purchase prices while relying on the mandated surplus for long-term protection. All of this would be unfair to the producing industry as well as at odds with deregulation and current Government policy.

The next issue is whether the Board should use a much altered mandated surplus approach to provide protection to non-industrial core consumers. In this regard, the extent of any advantages of a contracting approach would be greatly reduced if the mandated surplus did not set aside unacceptably large volumes of gas. Having this in mind, and the Board's interpretation that the Government policy suggests protection for core users, the Board believes that a relatively simple test dealing only with core requirements for a reasonable future time period would be the approach most compatible with the public interest.

Recognizing that, even with a mandated surplus approach, contracts between consumer representatives and producers and the usual Alberta requirement clause in major permits will provide protection for consumers, the test need not be applied in a rigid manner. Rather, it would be used by the Board as a guide in dealing with removal applications.

Having decided that a mandated surplus test for core consumers should be used, the Board must also select the appropriate period of protection for such a test. Suggestions by participants in the hearing ranged from 5 to 25 years multiplied by the current yearly rate of consumption at the time of the test. The Board's view is that the period should be of sufficient length to offer a reasonable level of security to core consumers in the province. It should also recognize the potential for ongoing development of gas reserves, and the long-term technical and economic prospects for alternative energy sources. Also, it should have regard for the historic position of representatives of such consumers in contracting for gas.

IPAC, although strongly favouring a contracting approach, stated that if a mandated surplus was necessary, the period of protection should be 5 years. This was based on an estimated time frame for discovering and developing new reserves. The Board does not agree that such a period would be appropriate because it believes that core consumers, like individual residential users who must rely on others to look after their needs, should have reserved for them, preferably by contracts, reserves for a longer future period.

The Alberta utilities suggested the protection should be for 25 years. They also stated that their policy was

to contract gas for the "long term", implying about 20 years. At the same time, they said their current level of contracts would be equal to about 13 years.

Having regard for the current large excess of reserves over requirements, the very substantial potential for additional reserves in the Alberta portion of the Western Canada Sedimentary Basin, the relative stability of the core market in Alberta in terms of future growth, the long-term potential for alternative energy sources such as gasified coal, and current contracting practices of Alberta consumers, the Board is satisfied that a 15-year protection period would be appropriate.

In addition to the 25-year reserves surplus test which the Board has employed in recent years, there is a deliverability test. It is utilized only to obtain a broad assessment of the long-term demand and deliverability situation and is not a rigid test. For this reason, and because most participants in the hearing indicated that no such test was needed, the Board has decided to dispense with it. This is a recognition that, deliverability generally tracks demand but not reserves, and can be added to by increased numbers of wells and compression, and use of storage. In keeping with the views of the participants at the hearing, the Board will periodically publish demand and supply projections, as it now does for crude oil, for the information of interested parties.

In the following section of the report, the Board summarizes a protection methodology that it believes should be adopted.

3.3 Protection Methodology and Removal Permit System

The Board believes that as a general objective, the gas removal policy should adequately protect the Alberta public interest, but should not be overly complex or interfere significantly with the business affairs of producers, shippers, and all buyers of Alberta gas.

Since this report deals specifically with the protection procedures and formulae, they will be summarized in some detail. Also included will be a description of other matters which are evaluated by the Board in assessing removal applications, and finally, a summary of the overall system for handling removal applications.

Further details respecting these matters are given in Appendix B. The appendix is in the form of a draft informational letter. It is the Board's intent to release that letter in final form in the near future. In the meantime, it would welcome comments from involved parties with respect to the details of the system to be used. Although it is not prepared to alter fundamental aspects of the revised procedures, such as providing for the 15 years of core requirements, the Board will consider changes to other less important elements if such would assist involved parties.

3.3.1 Protection Methodology

As indicated earlier, the Board has decided to use a simple test involving 15 years' protection for core requirements. It has also decided to dispense with the deliverability test. Although it is convenient to refer to the intended test as a surplus test because the one it replaces was so described, it would actually be a review of established reserves to determine if there are any which should be considered for inclusion in new removal permits. It is therefore an "availability for permitting" calculation. Also, it would be used more as a guide than a rigid test and would indicate generally whether or not new removal volumes could be approved.

The intent would be for the Board to carry out and publish a calculation only once per year. This exercise would be distinct from any specific application but would set the stage for the handling of applications throughout the year. The calculation would be made using year-end estimates, would be published in about April of each year, and normally would be used to April of the following year. At the time of publication of the calculation, the Board would also publish its most recent demand and supply projections and any available and relevant summary contract data. The information, particularly the demand and supply projections, would not be intended as any form of a "test", but would simply be for the information of interested parties.

The mechanics of the availability for permitting calculation are illustrated in Table 2. The calculation would be done in the following manner. The reference numbers are those shown on the table.

1 The total remaining established reserves would be as estimated by the Board and published in its Annual Reserves Report.

2 The reserves would be reduced by one-half of those judged to be beyond economic reach at the time of the estimate.

3 The reserves would be reduced by one-half of those judged to be deferred for conservation reasons at the time of the estimate.

The reason for deducting only one-half of the beyond-economic-reach and deferred reserves is that a considerable portion of these reserves will become economic and available to produce during the 15-year period.

4 The total available reserves would be item 1 minus items 2 and 3.

5 The protected core market requirements would be taken as 15 times an estimate of the core market requirements in the first year ($15C_1$). If the Board was aware that the actual gas under contract for core requirements was greater than $15C_1$, it would use the estimate of the actual contracted gas in the calculation.

The core requirements would be taken as residential requirements, plus commercial requirements, plus small industrial requirements (individually less than 2 petajoules or about 2 billion cubic feet per year). The definition of core requirements would be somewhat arbitrary and no attempt would be made to determine which requirements are actually being contracted for directly with producers. This would be a recognition that the entire calculation is an approximate one and is intended to be used by the Board with judgement in determining whether or not new permits should be issued.

6 The gas contracted for non-core markets would be an estimate based on the results of a survey which the Board would make annually among large consumers of gas in Alberta. Again it would not be intended as a precise figure since the entire calculation would be an approximate one.

7 The permit-related fuel and shrinkage would be the fuel associated with the transportation within Alberta of the gas being removed from the province and the shrinkage and fuel used for the reprocessing of such gas over the life of the removal permits.

8 The remaining permit commitments would be the total volumes authorized for removal from the province.

9 The total requirements would be the sum of items 5, 6, 7, and 8.

10 The reserves available for additional permits and related fuel and shrinkage would be item 4 less item 9.

3.3.2 Administrative Procedures and Monitoring Information

The calculation of the gas available for permits would be made each year and issued as part of an Annual Report on Gas Removal. The report would also give an indication of the maximum amount of gas which the Board believes it can readily place in new permits during the ensuing 12-month period. The volume would be based on the gas determined as available in the calculation and on the Board's judgement as to expectations with respect to other relevant matters, such as drilling activity and contracting practices for the coming year.

If drilling is expected to be active and growth in reserves to exceed production, the Board would likely indicate it is prepared to approve all that it calculated as available, and possibly more. On the other hand, if drilling activity is low or if reserves are not being discovered, the Board might indicate that it was prepared to place slightly less than the calculated amount in new permits.

The Board would also have regard for the actual amount of gas under contract to meet core requirements. For example, if its review of the contracting situation was to indicate that core users generally had 15 to 20 years of future required supply under contract and were not looking for additional gas, this would be a favourable situation and the Board would likely be prepared to place the full amount calculated, or more, in new permits. If the amount under contract was very low, however, and the Board knew that the representatives of Alberta consumers were beginning to look for additional reserves to place under contract, it might be more pessimistic in the volume it would indicate it was prepared to place in new permits.

The designation of gas available for inclusion in permits would mean that no surplus calculation would be needed as part of applications up to that total volume for the ensuing 12-month period. If the total approved gas within the 12-month period was approaching the designated volume, the Board would advise the industry. Of course, an applicant would be allowed to apply for any volume and support it with its own calculation of the gas available and other evidence, if it chose to do so. Also, the Board would welcome input from interested parties, whether in connection with an application or not, respecting its reserves and requirements estimates or any other part of the calculation of reserves available for inclusion in permits.

As indicated previously, the Board would not be applying a deliverability test in assessing applications. However, it would include, for information purposes, in the annual report on gas removal its most recent demand-supply projections for a 15-year future period. This

would not necessarily mean that a new study had been carried out each year, but the most recent study would be updated to reflect the current situation.

Throughout the hearing, most participants emphasized the need for reasonably complete information respecting the reserves placed under contract by applicants for removal permits and for Alberta users. As a result of this, the Board will be increasing modestly the type of contractual information it requires, and in the annual gas removal report will publish summary statistics respecting the contract situation.

The clause requiring that gas be made available to Alberta consumers would continue to be used in removal permits, recognizing also that the legislation allows diversion of gas in event of emergencies. Also, the Board would intend to continue giving notice of applications which relate to significant volumes of gas (greater than 3×10^9 m^3 or about 100 billion cubic feet) or where the period of removal would exceed 2 years. Where Alberta consumers, or others, disagree with the most recently published Board estimate of reserves available for inclusion in permits, or they have concerns about other issues such as belief that the opportunity for contracting gas was in jeopardy, they could come to the Board in connection with an application and give detailed reasons why it should not be approved.

The Board intends to issue in April its first report summarizing the current situation respecting gas available for inclusion in permits during the coming year.

3.3.3 Other Tests to be Applied to Removal Applications

As indicated previously, a surplus calculation would not be necessary with each application if the most recently published Board report indicated that reserves are available for inclusion in permits. The applicant however would have to satisfy the Board on the following additional matters:

1 that there are in fact established gas reserves associated with the application which are either owned by or under contract to the applicant;

2 that a marketing arrangement is either in place or all of the general terms have been agreed to and a letter of intent or the equivalent has been executed;

3 that the terms of the marketing arrangement are in the Alberta public interest; and

4 that all other aspects of the application are in the public interest.

None of these requirements are significantly different than those applied by the Board in recent years. There would, however, be greater emphasis on evidence to demonstrate that the reserves in question are controlled by the applicant and that there are reasonably firm arrangements to market the gas.

3.3.4 Removal Permit System

The system for processing applications to remove gas from Alberta will continue to be essentially as described in the most recent Board directives on this matter. The required information in support of applications will vary depending on whether the application is for a long-term permit or for a short-term small-volume permit. The latter is defined as any permit with a term of less than 2 years and for removal volumes of less than 3 billion cubic metres. The system for processing applications and the requirements in support of applications are set out in further detail in Appendix B.

For long-term applications, the Board will satisfy itself that the required information has been provided. It will then publish notice of the application in major Alberta newspapers, and provide such notice directly to those parties that have indicated an interest. If no objections are received and the volumes are within those which the Board has indicated it is prepared to include in permits, and if it is otherwise satisfied the removal would be in the public interest, the Board will request an Order in Council and be prepared to issue a permit. The total volume in the permit would not exceed the quantity evaluated by the Board to be available to the applicant from the sources under its control.

If objection is received, depending on the basis and merits of the objection, the Board may call a hearing. If it does, it would decide the issue having regard for the evidence brought forward in the application and at the hearing.

The maximum term for which the Board is prepared to grant a permit would normally be 15 years. However, the Board would be prepared, in special circumstances, to grant permits for periods of up to 25 years, if it is demonstrated that such a term would be in the Alberta public interest.

For short-term small-volume applications, the process would be simpler. The information required in support of such an application, as is indicated in Appendix B, would be less than that required for long-term applications. Additionally, if the Board is satisfied that the application is in the public interest and it is within the

total volume limits specified by the Board for removal, the Board would seek a Ministerial Approval and be prepared to issue a permit. The permit would always include a clause that it would automatically expire if not used within 90 days of its issuance.

The Board recognizes that some sales arrangements could be on a totally spot-sales basis. For such an arrangement, it is difficult to ensure that deliveries would actually occur within 90 days of issuance of the permit, or indeed at all. To accommodate such situations, the Board is prepared to consider, for administrative purposes, a third category of removal permit in addition to those for regular long-term removals and for short-term small-volume removals.

Such a permit would be considered for those who wish to make only spot sales provided they were under a broad marketing agreement where pricing arrangements and other terms are acceptable. The permits would be for a maximum of 4 months, non-renewable, and for total volumes of less than 1 billion cubic metres. Given the spot-sales nature of the permit, and the duration and volume limitations, the permits would not need to include a so-called "sunset clause" requiring removals to begin within any particular time frame.

Each month the Board will publish a list of new permits issued and distribute it to all interested parties. The applications would also be available at the Board's Records Centre for review. If any affected party comes forward after a permit has been issued and raises objections, the Board would consider the merits of such an objection. Where appropriate, the Board would be prepared to suspend the permit in question and call a public hearing.

One of the areas of particular concern to those participating in the policy hearing was the question of reserves owned or under contract. As a result of

TABLE 2 GAS RESERVES AVAILABLE FOR INCLUSION IN PERMITS AS AT 31 DECEMBER 1986 (Illustrative only)

		10^9 m³ at 37.4 MJ/m³	TCF at 1000 Btu/ft³
RESERVES			
1	Total Remaining Established Reserves	1 780	63.3
2	Less: One-half of the Reserves Beyond Economic Reach	25	0.9
3	Less: One-half of the Deferred Reserves	90	3.2
4	Total Available Reserves	1 665	59.2
REQUIREMENTS			
	Alberta's Requirements		
5	Core Market Requirements ($15C_1$)	100	3.5
6	Contracted for Non-core Markets	50	1.7
7	Permit-related Fuel and Shrinkage	110	4.0
	Permit Requirements		
8	Remaining Permit Commitments	1 130	40.0
9	Total Requirements	1 390	49.2
AVAILABLE			
10	Available for Permits	275	10.0

those concerns, the Board is requiring more information respecting this subject for short-term small-volume applications.

For long-term applications, the Board will continue to require reserve estimates and description of the lands and geological horizons containing the reserves. For short-term small-volume or spot-sales applications, reserve estimates will not be needed but the lands and geological horizons containing the bulk of the gas will have to be identified. This will enable interested parties to review the applications, even though the permits may have already been issued, and come forward if there is dispute as to whether or not reserves within the lands in question are under control of the applicant.

The Board will also continue to do surveillance of removals to ensure that they are taking place in a manner consistent with that approved in the permit. Where such is not the case, it may review permits to determine if they should be altered or rescinded.

Further details of these processes are given in Appendix B which, as indicated previously, is in the form of a draft informational letter.

4 FINDINGS

Having regard for the evidence submitted, the policy of the Alberta Government, and its own knowledge and responsibilities under the Gas Resources Preservation Act, the Board believes it appropriate to

- continue with a mandated test but reduce the protection from $25A_1$ to $15C_1$, and use the test as a guide to determine if there are gas reserves available for inclusion in new permits,
- determine the availability of gas for inclusion in permits on an annual basis and report the results,
- discontinue the present deliverability test but periodically publish supply/demand projections,
- continue an expedited procedure for processing applications for small-volume short-term removal permits, and provide for the issuance of spot-sales permits,
- require slightly more information respecting lands owned or under contract for short-term small-volume applications and continue information requirements respecting sales arrangements for both short-term small-volume and long-term applications, and
- continue the recently adopted policy of increased surveillance of removals of gas under existing permits.

DATED at Calgary, Alberta, this 20th day of March 1987.

ENERGY RESOURCES CONSERVATION BOARD

G. J. DeSorcy, P.Eng.
Chairman

C. J. Goodman, P.Eng.
Board Member

N. A. Strom, P.Eng.
Board Member

APPENDIX A

A-2

ENERGY AND NATURAL RESOURCES

Office of the Minister

407 Legislature Building, Edmonton, Alberta, Canada T5K 2B6 403/427-3740

December 2, 1985

Mr. Vern Millard
Chairman
Energy Resources Conservation Board
640 - 5th Avenue S.W.
Calgary, Alberta
T2P 3G4

Dear Mr. Millard;

As you are aware, the Alberta government has recently concluded an agreement with the governments of Canada and other producing provinces on natural gas markets and pricing. The intent of the agreement is to create a more flexible and market-oriented pricing regime with respect to natural gas.

One aspect of that agreement relates to the incrementality of sales which would follow from approval of proposed gas removal permits or export licences. It was agreed that the currant incrementality tests are not in the public interest or consistent with the intent of the agreement and should be discontinued.

The government of Canada amended its existing policy and eliminated its "incrementality test" effective November 1, 1985. Alberta agreed to review the wording of the Gas Resources Preservation Act, specifically section 5(3)(c), and, as necessary, amend the legislation to ensure that it does not require new sales to be incremental to existing sales. I intend to introduce legislation at the first sittings of the Legislature to achieve that objective.

The agreement also allows for direct purchase of gas by consumers from producers provided distributor contract carriage arrangements are available for such purchases. To ensure that the requirement is satisfied, it will be government policy to condition any Order in Council or Ministerial Approval authorizing a removal of gas from the province so that removal will not be allowed to commence until contract carriage arrangements are available in the particular market region.

The agreement also makes reference to a review of the National Energy Board surplus tests which is currently underway and which will likely result in significantly freer access for Canadian gas to export markets. The Alberta government agreed to a review of the surplus tests used in this province. I am therefore requesting that the ERCB review its procedures and formulae currently used in the administration of sections 5(3)(a) and (b) of the Gas Resources Preservation Act, and make any modifications considered necessary or advisable in the public interest.

I am advising the ERCB of these recent developments and plans in order that you may be aware of them in your consideration of removal applications.

Yours truly,

John Zaozirny
Minister

A-4

ENERGY

Office of the Minister

28 Legislature Building, Edmonton, Alberta, Canada T5K 2B6 403/427-3740

October 28 1986

Mr. V. Millard
Chairman
Energy Resources Conservation Board
640 - 5th Avenue S.W.
Calgary, Alberta
T2P 3G4

Dear Mr. Millard:

In the Agreement Among the Governments of Canada, Alberta, British Columbia and Saskatchewan on Natural Gas Markets and Prices entered into on October 31, 1985 the following commitment was made:

> " The governments anticipate that reviews of surplus tests underway or shortly to be initiated by the National Energy Board and by the appropriate provincial authorities will result in significantly freer access to domestic and export markets and thus will contribute to the achievement of the market-oriented pricing system contemplated in this Agreement."

I am aware that the Energy Resources Conservation Board has twice scheduled a hearing to review its surplus test procedures, both times postponing commencement of the hearing at the request of industry.

The Government of Alberta believes that it is now an appropriate time for you to proceed with your hearing under the Gas Resources Preservation Act to review the requisite protection required to meet the ongoing needs of persons in Alberta for natural gas. The Board, in undertaking this review, is asked to take into account the policy of the Government of Alberta as contained in the attached policy statement. It is our understanding that the National Energy Board will be reviewing its surplus test procedures and it is my expectation it will adopt the attached basic policy concepts, albeit applied on a national scale.

.../2

I look forward to a timely report in this area, hoping that you can complete the hearing process and write your report by 28 February 1987. Should this timeframe prove inappropriate, please inform me when I can reasonably expect to receive your report.

Yours truly,

Neil Webber

Neil Webber
Minister

cc: Hon. Marcel Masse
Minister
Energy, Mines and Resources
Mr. Roland Priddle
Chairman
National Energy Board

Policy Statement by the Government of Alberta Respecting Long-Term Protection for Consumers of Natural Gas

The policy of the Government of Alberta has been to provide protection, under the Gas Resources Preservation Act, for the on-going needs of persons in Alberta for natural gas. The Legislation is administered by the Energy Resources Conservation Board.

Detailed consideration has been given to the appropriateness, in the public interest, of that policy in light of the October 31, 1985 Agreement between the federal government and the gas producing provinces and on-going efforts towards accomplishing the intent of that Agreement. The Agreement provides for reviews of surplus tests by federal and provincial authorities towards "...significantly freer access to domestic and exports markets..." and "...achievement of the market-oriented pricing system contemplated in this agreement".

The Government of Alberta has had on-going discussions with the federal government who have agreed that a review of surplus tests at this time would be appropriate with the objective of providing greater access to export markets. To this end it is the policy of the Government of Alberta to provide for the reasonable needs of end users who cannot normally be expected to contract directly with producers for their supply needs, but not for those end users, generally in the industrial category, who are capable of arranging security of supply through contractual practices. The Alberta Government believes that such a policy is in both the Alberta and the broader Canadian public interest. It would ensure the availability of long-term supplies to those consumers who are virtually totally dependent on utilities supplying gas for heating and other requirements.

With respect to industrial consumers, they have free direct access to producers to purchase gas under terms and for time periods which they judge appropriate. Over the past few years there has been a substantial move by industrial consumers to contract directly with producers. Additionally, some industrial users own their own gas supplies, and some are able to use alternative sources of energy. For these reasons, such consumers can provide protection for their long-term requirements through contractual arrangements and do not need government mandated protection.

The Government of Alberta believes that within the spirit of protection outlined above it is possible to devise surplus procedures that do not distort market forces which can generally be relied upon to balance supply and demand. The Government further recognizes that surplus determination procedures, provincial or federal, are not a substitute for private sector contractual arrangements made in respect of market requirements.

By separate letter the Government of Alberta is asking the Energy Resources Conservation Board to have regard for this policy in its review of the surplus tests currently in use.

APPENDIX B

APPENDIX B INFORMATIONAL LETTER IL 87- D R A F T

To: All Operators, Purchasers of Gas, Tranmission Companies, Utility Companies, IDP List

ERCB POLICIES WITH RESPECT TO GAS REMOVAL PERMITS AND METHODS OF PROCESSING AND REQUIREMENTS FOR INFORMATION IN SUPPORT OF APPLICATIONS FOR REMOVAL PERMITS

This draft informational letter has been prepared as an appendix to ERCB Report 87-A and is intended, when finalized, to replace Informational Letters IL 79-25, IL 85-17, and IL 86-10.

With the changes to the Gas Resources Preservation Act in 1984 and 1985, the move towards deregulation of the gas industry as provided for in the 31 October 1985 Intergovernmental Agreement on Natural Gas Pricing and Marketing, and ERCB Report 87-A respecting Alberta's gas supply protection policies, it was considered advisable to issue a new IL which would consolidate all provisions related to gas removal permits.

TYPES OF PERMITS

There are three types of permits which may be issued. The information needed to support applications and the methods of processing the applications vary according to the type of permit. The types of permits are

- long-term permit -- for removal volume greater than 3 billion cubic metres or permit term greater than 2 years -- requires an Order in Council (O.C.) before a permit may be issued;

- short-term small-volume permit -- for removal volume not exceeding 3 billion cubic metres and permit term not exceeding 2 years -- requires a Ministerial Approval (M.A.) from the Minister of Energy before a permit may be issued;

- spot-sales permit -- for removal volume of less than 1 billion cubic metres and permit term not exceeding 4 months -- requires an M.A. from the Minister of Energy before a permit may be issued.

MATTERS RESPECTING WHICH THE ERCB MUST BE SATISFIED

Having regard for its responsibilities under the Gas Resources Preservation Act, the ERCB considers the following to be the most significant matters it must have regard for in assessing applications. The degree to which each matter is scrutinized by the ERCB varies depending on the type of permit being considered and the relevant circumstances at the time of assessment. These matters are

- o whether or not the most recent calculations respecting Alberta supply of and requirements for gas (the Gas Available for Permitting Test) satisfy the ERCB that there are reserves available for inclusion in removal permits;

- o whether the applicant owns or has made arrangements to acquire sufficient reserves to satisfy the applied-for permit;

- o whether or not a marketing arrangement has been entered into or otherwise generally agreed to (e.g. through a letter of intent);

- o whether or not the terms of the marketing arrangement are in the Alberta public interest;

- o whether suitable transportation arrangements are in place, or have been generally agreed to;

- o whether or not any major new facilities are required, and if so, whether they are economically viable; and

- o whether or not other aspects of the applied-for removal of gas are in the Alberta public interest.

INFORMATION REQUIRED IN SUPPORT OF REMOVAL PERMIT APPLICATIONS

Attachments 1 and 2 update and consolidate the information requirements for long-term applications and for short-term small-volume and spot-sales applications. Although each attachment relates to an entire range of applications, requirements for specific applications within the range will differ. To illustrate, even though Attachment 1 would apply to an application to remove 1 10^9 m^3 over a 5-year period, the detail of information required would be much less than if the application was to remove 100 10^9 m^3 over a 15-year period.

The information requirements are self-explanatory except for one subject area which is discussed further in the following paragraphs.

The attachments indicate that information must be submitted relating to marketing arrangements for the gas. This is to allow the ERCB to assess the suitability, in the Alberta public interest, of the terms of marketing arrangements related to the application. The ERCB recognizes that marketing information is often sensitive and proprietary in nature, and to routinely make it public would very likely work against the Alberta public interest. Also, the ERCB is constrained legally from having regard for information submitted in confidence in deciding on applications.

All of these factors combine to create a problem as to how information regarding marketing arrangements might be handled. Having regard for these factors, the ERCB will use the following approach:

- o the applicant will be required, as set out in Attachments 1 and 2, to provide at least a general description of the terms of marketing arrangements;

- o applicants are asked to provide as much information as they can without threatening their proprietary positions;

- o no information submitted to the ERCB in support of removal applications will be kept confidential;

- o the ERCB will do the best it can, in assessing this element of the public interest, with the available information, and

  - if it cannot generally conclude, on the basis of submitted information, that the marketing arrangements are in the public interest, it would deny the application, or

  - if it can generally conclude that the marketing arrangements are in the public interest, and if it is satisfied with other aspects of the application, it would seek an O.C. or M.A. authorizing issuance of a permit.

It is recognized that, in certain circumstances, the Lieutenant Governor in Council or Minister of Energy may not accept the ERCB conclusion that marketing arrangements are in the public interest, due to lack of specific information. In such situations the ERCB would expect they may seek additional detailed information directly from an applicant.

In certain special circumstances, proprietary information respecting the terms of agreements for purchasing gas in Alberta or transporting the gas to markets may necessarily be handled in a manner similar to that previously described regarding marketing arrangements.

METHODS OF PROCESSING APPLICATIONS

The following methods will be used by the ERCB in processing removal applications.

A Long-term Applications

- o Where the necessary items listed in Attachment 1 have not been satisfactorily addressed in the application, a deficiency letter will be sent and processing of the application will continue when the applicant responds.

- o Where the necessary items listed in Attachment 1 have been addressed in sufficient detail in the application, the ERCB will give consideration as to how the application should be processed having regard to section 29 of the Energy Resources Conservation Act and would normally expect to

  (a) give notice for objection, or

  (b) call a public hearing.

- In cases where the ERCB believes that notice for objection is appropriate, it will publish the notice in the major daily newspapers soon after it deems the application complete. Where submissions are received from interested parties, the ERCB will decide whether or not a hearing is necessary. If the ERCB believes a hearing is not necessary and that the application should be granted, it will seek the necessary O.C.

- In cases where the ERCB believes a hearing is necessary, it will give notice of the hearing in the major daily newspapers, will hear the matter, give its decision, and will seek the necessary O.C. if it believes the application should be granted.

- Upon receipt of an O.C., the ERCB will immediately issue the permit.

- Particulars of the permit will be included in the monthly bulletin ERCB ST 86-48 which lists all new permits.

The time to process these applications which require O.C.s in accordance with the legislation will vary depending upon the particular application and circumstances surrounding it, but will likely range from 2 to 5 months.

B Short-term Small-volume and Spot-sales Applications

- Where the necessary items listed in Attachment 2 have not been satisfactorily addressed in the application, a deficiency letter will be sent and processing of the application will continue when the applicant reponds.

- Where the necessary items listed in Attachment 2 have been addressed in sufficient detail in the application, the ERCB will give consideration as to how the application should be processed having regard to section 29 of the Energy Resources Conservation Act and will decide to

  (a) handle without public review,

  (b) give notice for objection, or

  (c) call a public hearing.

- In cases where the ERCB sees no need for a public review and if it believes the application should be granted, it will seek the necessary M.A.

- In cases where the ERCB believes that notice is appropriate, it will publish the notice in major daily newspapers as soon as practical after it deems the application complete. Where submissions are received from interested parties, the ERCB will decide whether or not a hearing is necessary. If the ERCB believes a hearing is not necessary and that the application should be granted, it will seek the necessary M.A.

- In cases where the ERCB believes a hearing is necessary, it will give notice of the hearing in the major daily newspapers, will hear the matter, give its decision, and will seek the necessary M.A. if it believes the application should be granted.

- Upon receipt of an M.A., the ERCB will immediately issue the permit.

- Particulars of the permit will be included in the monthly bulletin ERCB ST 86-48 which lists all new permits.

The time to process these applications, which require M.A.s in accordance with the legislation, will vary depending upon the particular application and circumstances surrounding it, but will likely be about 2 weeks, but could be up to 5 months if a hearing takes place.

SURVEILLANCE

The ERCB plans to continue the recently adopted policy of increased surveillance of gas removals under existing permits. The matters which will be most closely monitored are as follows:

- gas being acquired in a manner which differs from that identified in the application and approved in the permit;

- gas being removed to markets other than those identified in the application and approved in the permit;

- gas being marketed under terms which differ from those identified in the application and approved in the permit;

- permits under which removal volumes are substantially less than approved by the permit; and

- permits under which no removals have occurred. Short-term small-volume permits will normally have clauses causing the permit to automatically expire if removals do not commence within 90 days. New long-term permits may also have clauses requiring removals to commence by particular dates.

Where the surveillance indicates that removals are not in accordance with the relevant permit, the ERCB will take action which may include reviewing and amending or rescinding certain permits.

The Board welcomes comments on this draft and will consider all those submitted to it before 30 August 1987, at which time it plans to issue a final document. All comments should be sent to Mr. H. J. Webber, Manager of the Gas Department.

ISSUED at the City of Calgary, in the Province of Alberta, this __ day of _____1987.

G. J. DeSorcy, P.Eng.
Chairman

ATTACHMENT 1 REQUIREMENTS IN SUPPORT OF APPLICATIONS TO REMOVE GAS FROM ALBERTA IN VOLUMES GREATER THAN 3 BILLION CUBIC METRES OR FOR PERMIT TERMS GREATER THAN 2 YEARS

In addition to conforming with the requirements of section 7 of the ERCB's "Rules of Practice" (Alberta Regulation 149/71 made pursuant to the Energy Resources Conservation Act), an application should contain the following information:

GENERAL

1 The name of the applicant or applicants.

2 The permit or amended permit term which is being applied for, and the commencement date of any new removals. Reasons in support of the requested permit term should also be given, particularly if it is longer than 15 years.

3 The total volume of gas to be removed. In the case of an application for amendment of the permit volume, both the volumes under the existing permit and the incremental volumes being applied for should be identified.

4 The proposed maximum annual and daily rates of gas removal during the applied-for permit term.

5 The point(s) of removal from Alberta.

6 Reference to the most recently published ERCB calculation indicating that the volume of gas in question is available for removal from Alberta, or other evidence to demonstrate such is the case.

7 Evidence respecting any arrangements to supply gas to utility companies, communities, or consumers within the province. (Such information need not be included if it has previously been submitted to the ERCB.)

RESERVES, LANDS UNDER CONTRACT

8 A tabulation of the reserves dedicated to the application including

- o a list of the pools, fields, and areas (including location and geological description) from which the gas is proposed to be removed;
- o an estimate of the total reserves of gas in each pool, field, or area; and

- o a listing of the amount of gas under the control of the applicant in each pool, field, or area.

ERCB-designated field and pool names, as well as strike area names, should be used or cross-referenced, where available.

9 Detailed information in support of reserve estimates for any pool dedicated to the application that contains more than 1 billion cubic metres of remaining marketable reserves and where the applicant's reserve estimate differs by more than 10 per cent from the most recently published ERCB estimate. (Failure to provide detailed reserve estimates for these pools, or indeed any other, would mean that the Board would use its own reserve estimates.)

The detailed information in support of reserve estimates should include, for each pool, the geological, engineering, and other data used in the estimate. Such data should be in SI units and include the following

- o For each pool or individual reserve determination, a completed "Gas Reserve Data Sheet" (EG-31(a)-83-01 suitable for typewriter, word processor, or hand use, and EG-31(b)-83-01 designed for computer application), copies of which are available upon request at the Maps and Publications counter of the ERCB. Negatives of the forms are available on request from the Printing Department of the ERCB. (Sample EG-31 forms are provided at the end of this attachment, together with a list of terms and abbreviations used in the form.)

- o A map or maps showing the wells which penetrated the pool; the gas pay or pore volume thickness at each well; the isopachs or structural contours used to estimate the reserve; the positions of the fluid interfaces; if applicable, the portion of the isopachs deemed to have a "probable" or "possible" degree of reliability; the location of any "type well" selected to identify the pool; and the current outline(s) of the relevant Board-designated field.

- o In the title block of each map, a record of the parameter mapped and units employed (e.g. gross or net pay thickness in metres, reservoir or gas pore volume in cubic metres).

- o For each well at which the mapped zone was tested after the setting of production casing, the depths of the perforations and the test data that conclusively prove or disprove the productivity of the well.

- o For non-producing small or marginal pools, evidence that production is economically feasible.

- o Where a reserve estimate is based on a pressure decline study, the manner of calculating and the data supporting each of the pressure points.

10 Evidence that 100 per cent of the total volume of gas proposed to be removed, plus permit-related Alberta requirements, is under the control of the applicant. The evidence should include

- o maps identifying the lands for which gas is under the applicant's control (any geological zone restrictions should be identified),
- o a form or general description of each of the types of gas purchase contracts by which reserves are committed to the proposed scheme, and
- o where reserves committed to an earlier contract are included in the application, a statement respecting the availability of the reserves for dedication to the applied-for permit.

PURCHASING AND MARKETING

11 Identification of the gas producers whose reserves have been dedicated in support of the application.

12 A description of the proposed markets, including customer composition, type of sale, future potential, and seasonal characteristics of end use. A description of the prices of competing fuels in the market area (including any alternative gas supply) and a summary of the pricing arrangements and how they were determined for the applied-for gas.

13 A forecast showing, for the requested term of permit, the gas required to meet the applicant's ex-Alberta markets, including any fuel required to transport the gas from the Alberta border to the intended markets.

14 A schedule of the terms and conditions which will be incorporated in gas purchase, transmission, and sales contracts, to provide for possible future changes in prices and other market and supply conditions.

FACILITIES AND ECONOMIC VIABILITY

15 A description of the plans for transporting the gas. This information should include

- o evidence that the necessary facilities for gathering and transporting of the gas within the province will be available;
- o evidence that the necessary facilities for the transporting of the gas from the Alberta border to the user will be available;

- o a description of any capacity limitations in existing transmission facilities that may require new facilities to be built, including an estimate of the required new capacity (and associated capital cost) that would have to be installed in order to accommodate the applied-for volumes.

16 In a case where major new facilities would be required, general evidence respecting their economic viability.

17 For removals to other parts of Canada, an indication as to whether or not distributor contract carriage arrangements are available in the region in which the gas will be marketed.

OTHER PUBLIC INTEREST MATTERS

18 A brief description of any corporate affiliations among the applicants, the applicant's intended customer(s), and producers whose gas reserves are dedicated to the applied-for gas removal arrangements.

19 Where any corporate affiliation exists among parties named in Item 18, a description of safeguards to ensure that the affiliation will not result in arrangements which are contrary to Alberta's public interest.

20 A statement of any other aspects of the applied-for removal of gas that may affect the Alberta public interest.

DATE YR/MO/DAY

ERCB-NEB **GAS RESERVE DATA SHEET** GAS VOLUMES AT 101.325 kPa AND 15°C

SUBMITTED BY

FIELD

POOL

ZONE

MISC. I.D.

TYPE WELL (LOCATION) W

TOP OF PAY K.B.

BASE OF GAS PAY K.B.

S.L. POOL MEAN FORMATION DEPTH K.B. S.L.

TYPE OF RESERVE
- ASSOCIATED
- NON-ASSOCIATED
- SOLUTION

AVERAGE POROSITY SOURCE

CUTOFFS: POROSITY SOURCE

PERMEABILITY mD

GAS SATURATION (S_g) = 1-(S_w+S_o)

S_w SOURCE

S_o SOURCE

INITIAL RESERVOIR PRESSURE, P_i SOURCE

RESERVOIR TEMPERATURE SOURCE

Z P_r SOURCE

T_r

GAS ANALYSIS P_c, kPa T_c, K

P'_c, kPa T'_c, K

RELATIVE DENSITY SOURCE

RESERVOIR CONSTANT (m^3/m^3) = $\phi \times S_g \times \frac{P_i}{101.325} \times \frac{288.15}{T} \times \frac{1}{Z}$

RECOVERY FACTOR SOURCE

SURFACE LOSS FACTOR SOURCE

RAW GAS COMPOSITION IN MOLE FRACTIONS

N_2	CO_2	H_2S	H_2	He	C_1	C_2	C_3	iC_4	nC_4

C_5	C_6	C_{7+}

SOURCE

GROSS HEATING VALUE OF MARKETABLE GAS, MJ/m^3

SOURCE

STOIP, $10^3 m^3 = 10 A h \phi (1-S_w) \frac{1}{B_{oi}}$

GOR SOURCE

$1/B_{oi}$ SOURCE

RESERVE ESTIMATE - INITIAL CONDITIONS

	PROVEN	PROBABLE
G/W, metres SL		
G/O, metres SL		
AREA, hectares		
h, metres		
ROCK VOLUME, $10^4 m^3$		
ϕ, fraction		
GAS SAT, fraction		
P_i, kPa		
T, K		
Z		
RESERVOIR CONSTANT, m^3/m^3		
IGIP, $10^6 m^3$		
RECOVERY FACTOR, fraction		
PRODUCIBLE, $10^6 m^3$		
SURFACE LOSS FACTOR, fraction		
MARKETABLE, $10^6 m^3$		
INITIAL ESTABLISHED MARKETABLE, $10^6 m^3$		
MARKETABLE GAS PRODUCED, $10^6 m^3$		
REMAINING ESTABLISHED MARKETABLE, $10^6 m^3$		
REMAINING ESTABLISHED MARKETABLE UNDER CONTRACT, $10^6 m^3$		
EFFECTIVE DATE, YR/MO/DAY		

SOLUTION GAS

STOIP, $10^3 m^3$	
GOR, m^3/m^3	
GIP, $10^6 m^3$	
RECOVERY FACTOR, fraction	
PRODUCIBLE, $10^6 m^3$	
SURFACE LOSS FACTOR, fraction	
MARKETABLE, $10^6 m^3$	
MARKETABLE GAS PRODUCED, $10^6 m^3$	
REMAINING ESTABLISHED MARKETABLE, $10^6 m^3$	
EFFECTIVE DATE YR/MO/DAY	

STOIP = STOCK TANK OIL IN PLACE

GOR = INITIAL DISSOLVED GAS-OIL RATIO

ADDITIONAL COMMENTS

EG-31(b)-83-01

DATE YR/MO/DAY

ERCB-NEB **GAS RESERVE DATA SHEET** GAS VOLUMES AT 101.325 kPa AND 15°C

SUBMITTED BY

FIELD

POOL

ZONE

MISC. I.D.

TYPE WELL (LOCATION)

TOP OF PAY K.B

BASE OF GAS PAY K.B

S.L. POOL MEAN FORMATION DEPTH K.B / S.L

TYPE OF RESERVE
- ☐ ASSOCIATED
- ☐ NON-ASSOCIATED
- ☐ SOLUTION

AVERAGE POROSITY SOURCE

CUTOFFS: POROSITY SOURCE

PERMEABILITY mD

GAS SATURATION (S_g) = 1-(S_w+S_o)

S_w SOURCE

S_o SOURCE

INITIAL RESERVOIR PRESSURE, P_i SOURCE

RESERVOIR TEMPERATURE SOURCE

Z P_r SOURCE

T_r

GAS ANALYSIS P_c, kPa T_c, K

P'_c, kPa T'_c, K

RELATIVE DENSITY SOURCE

RESERVOIR CONSTANT $(m^3/m^3) = \phi \times S_g \times \frac{P_i}{101.325} \times \frac{286.15}{T} \times \frac{1}{Z}$

RECOVERY FACTOR SOURCE

SURFACE LOSS FACTOR SOURCE

RAW GAS COMPOSITION IN MOLE FRACTIONS

N_2	CO_2	H_2S	H_2	He	C_1	C_2	C_3	IC_4	nC_4

C_5	C_6	C_{7+}

SOURCE

GROSS HEATING VALUE OF MARKETABLE GAS, MJ/m^3

SOURCE

STOIP, $10^3 m^3 = 10Ah\phi(1-Sw)\frac{1}{B_{oi}}$

GOR SOURCE

$1/B_{oi}$ SOURCE

ADDITIONAL COMMENTS

RESERVE ESTIMATE - INITIAL CONDITIONS

	PROVEN	PROBABLE
G/W, metres SL		
G/O, metres SL		
AREA, hectares		
h, metres		
ROCK VOLUME, $10^4 m^3$		
ø, fraction		
GAS SAT, fraction		
P_i, kPa		
T, K		
Z		
RESERVOIR CONSTANT, m^3/m^3		
IGIP, $10^6 m^3$		
RECOVERY FACTOR, fraction		
PRODUCIBLE, $10^6 m^3$		
SURFACE LOSS FACTOR, fraction		
MARKETABLE, $10^6 m^3$		
INITIAL ESTABLISHED MARKETABLE, $10^6 m^3$		
MARKETABLE GAS PRODUCED, $10^6 m^3$		
REMAINING ESTABLISHED MARKETABLE, $10^6 m^3$		
REMAINING ESTABLISHED MARKETABLE UNDER CONTRACT, $10^6 m^3$		
EFFECTIVE DATE, YR/MO/DAY		

SOLUTION GAS

STOIP, $10^3 m^3$	
GOR, m^3/m^3	
GIP, $10^6 m^3$	
RECOVERY FACTOR, fraction	
PRODUCIBLE, $10^6 m^3$	
SURFACE LOSS FACTOR, fraction	
MARKETABLE, $10^6 m^3$	
MARKETABLE GAS PRODUCED, $10^6 m^3$	
REMAINING ESTABLISHED MARKETABLE, $10^6 m^3$	
EFFECTIVE DATE YR/MO/DAY	

STOIP = STOCK TANK OIL IN PLACE
GOR = INITIAL DISSOLVED GAS-OIL RATIO

TERMS AND ABBREVIATIONS

Some of the terms and abbreviations used on forms EG-31(a)-83-01 and EG-31(b)-83-01 are described below:

DATE (YR/MO/DAY)	- effective date of the reserve estimate
SUBMITTED BY	- applicant submitting the data sheet
FIELD	- ERCB gas strike area or designated field name, if available
POOL	- ERCB designated pool name, if available
ZONE	- geological horizon of the reserve
MISC I.D.	- submitting company's pool identification, if other than ERCB pool name
TYPE WELL (LOCATION)	- the location of a well in the pool selected to identify the pool by top and base of pay (Lsd, Sec, Twp, Rge, Meridian)
TOP OF PAY	- the depth of the top of the gas pay zone in the type well with reference to the kelly bushing and sea level, metres
BASE OF GAS PAY	- the depth of the base of gas pay zone in the type well with reference to the kelly bushing and sea level, metres
POOL MEAN FORMATION DEPTH	- mean formational depth of pool, with reference to the kelly bushing and sea level, metres
TYPE OF RESERVE	- type of gas for which the data is submitted - associated, non-associated, or solution
GROSS HEATING VALUE OF MARKETABLE GAS	- not to be confused with the gross heating value of raw gas. This is the estimated heating value of the gas after field level processing

PROVEN	- those reserves recoverable under current technology and present and anticipated economic conditions specifically proved by drilling, testing, or production
PROBABLE	- a judgement portion of recoverable reserves contiguous to proven reserves that are interpreted from geological, geophysical, or similar information, with reasonable certainty to exist
INITIAL ESTABLISHED	- proven reserves plus a judgement portion of probable reserves (usually 50 per cent)
EFFECTIVE DATE (YR/MO/DAY)	- the effective date of the "marketable gas produced"

The balance of the form is self explanatory.

ATTACHMENT 2 REQUIREMENTS IN SUPPORT OF APPLICATIONS TO REMOVE GAS FROM ALBERTA IN VOLUMES OF NOT MORE THAN 3 BILLION CUBIC METRES AND FOR PERMIT TERMS OF NOT MORE THAN 2 YEARS

1 The name of the applicant or applicants.

2 The permit or amended permit term which is being applied for, and the commencement date of any new removals.

3 The total volume of gas to be removed and expected daily rate of removal. In the case of an application for amendment of permit volume, both the volumes under the existing permit and the incremental volumes being applied for should be identified.

4 The point(s) of removal from Alberta.

5 Reference to the most recently published ERCB calculation indicating that the volume of gas in question is available for removal from Alberta, or other evdience to demonstrate such is the case.

6 An identification of the lands dedicated to the application. This should include a listing of the areas and geological horizons containing the bulk of the gas to be removed, and a statement that the applicant owns or has made arrangements to acquire the reserves within those areas. Where reserves committed to an earlier contract are included in the application, a statement is required respecting the availability of the reserves for dedication to the applied-for permit.

7 A brief description of the plans for transporting the gas. This information should include general information respecting the necessary facilities for gathering and transporting the gas within and beyond the province.

8 A brief description of the proposed market(s), the type of sale, and a summary of the of the pricing arrangements and how they were determined, for the applied-for gas.

9 A brief description of any corporate affiliations among the applicant, the applicants' intended customer(s), and producers whose gas reserves are dedicated to the applied-for gas removal arrangements.

10 Where any corporate affiliation exists among parties named in Item 9, a decription of safeguards to ensure that the affiliation will not result in arrangements which are contrary to Alberta's public interest.

11 A statement of any other aspects of the applied-for removal of gas that may affect the Alberta public interest.

12 For removals to other parts of Canada, an indication as to whether or not distributor contract carriage arrangements are available in the region in which the gas will be marketed.